

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA,

- v -

OLDAMO FRAZER,

Defendant.

OPINION & ORDER

22-CR-00665 (PMH)

PHILIP M. HALPERN, United States District Judge:

Oldamo Frazer (“Defendant”) stands charged in a three-count S1 Superseding Indictment with possession with intent to distribute cocaine base, para-fluorofentanyl, and cocaine in violation of 21 U.S.C. §§ 841(a)(1), 841(b)(1)(B), 841(b)(1)(C). (Doc. 53). Before the Court is Defendant’s motion *in limine*, filed on November 19, 2023, to exclude the expert testimony of Vadim G. Astrakhan (“Astrakhan”) and Dr. Christine A. Herdman, Ph.D., (“Herdman”), or in the alternative for a hearing pursuant to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). (Doc. 60, “Def. Br.”). The Government filed its opposition on November 28, 2023. (Doc. 67, “Gov. Br.”; Doc. 70, “Pascual Decl.”; Doc. 71, “Herdman Decl.”). Defendant filed a reply letter attaching a supplemental report by Gregory B. Dudley (“Dudley”) at 10:47 p.m. on December 3, 2023, the evening before jury selection. (Doc. 74, “Reply”; Doc. 74-2).

For the reasons set forth below, Defendant’s motion *in limine* is DENIED.

Defendant seeks to preclude Astrakhan’s and Herdman’s expert testimony pursuant to Federal Rule of Evidence 702. (Def. Br. at 2-3). Rule 702 requires the expert to be “qualified as an expert by knowledge, skill, experience, training, or education.” Fed. R. Evid. 702. Additionally, the expert’s testimony must (1) “help the trier of fact to understand the evidence or to determine a fact in issue,” (2) “[be] based on sufficient facts or data,” (3) “[be] the product of reliable principles and methods,” and (4) reflect[] a reliable application of “the principles and methods to the facts of

the case.” *Id.* Although the Rule was amended several days ago, it is still the case that “in assessing admissibility, the trial court must determine whether the proffered expert testimony is relevant . . . and whether the proffered testimony has a sufficiently ‘reliable foundation’ to permit it to be considered.” *Campbell ex rel. Campbell v. Metro. Prop. & Cas. Ins. Co.*, 239 F.3d 179, 184 (2d Cir. 2001) (alterations omitted) (quoting *Daubert*, 509 U.S. at 587).

I. Astrakhan’s Testimony

Defendant moves to preclude Astrakhan from testifying that the controlled substance which Defendant is charged with possessing in Count Two (“Count Two Substance”) is para-fluorofentanyl. (Def. Br. at 4). Defendant does not challenge Astrakhan’s qualifications or competence. Defendant instead seeks to preclude Astrakhan’s testimony pursuant to Federal Rule of Evidence 702 on the basis that his testimony is not based on sufficient facts and data and is not the product of reliable principles and methods that have been reliably applied in this case. (*Id.* at 4). Defendant argues the testing techniques¹ relied on by Astrakhan—GC and GC/MS (tandem gas chromatography/mass spectrometry)—are “not sufficient to differentiate between the different fluorofentanyl isomers” and, therefore, “cannot positively identify para-fluorofentanyl to a reasonable degree of scientific certainty.” (*Id.* at 4-5).

The Government asserts in opposition that Defendant failed to address the actual methodology relied on by Astrakhan in reaching his conclusion that para-fluorofentanyl was present in the Count Two Substance. (Gov. Br. at 20). Astrakhan’s conclusions, as Defendant acknowledges, are based in part on application of the aforementioned GC/MS technique. (*Id.* at 21-22). That technique is “used to identify compounds in a mixture based on a predictable

¹ The tests were conducted on the Count Two Substance by New York State Police Mid-Hudson Satellite Crime Laboratory (“NYS Lab”) and Drug Enforcement Agency Northeast Laboratory (“DEA Lab”).

fragmentation pattern of each compound's molecules when the molecules are subjected to high energy electrons.” (*Id.* at 17; Pascual Decl. ¶¶ 3-5). “The resulting fragmentation pattern can be used to compare compounds with distinct fragmentation patterns. For example, it can be used to distinguish fluorofentanyl from fentanyl and cocaine.” (Gov. Br. at 17; Pascual Decl. ¶ 5). The Government concedes that the GC/MS technique, used alone, cannot conclusively identify among the group of isomers which comprise fluorofentanyl. (Gov. Br. at 17). What Defendant fails to acknowledge, however, is that the Drug Enforcement Agency (“DEA”) and Astrakhan utilized the GC/MS technique in conjunction with the GC/FID (Gas Chromatography/Flame Ionization Detection) technique applying the “ISOM02” method. (*Id.*). It is the combination of both techniques which the Government contends is capable of distinguishing among and reliably identifying isomers of fluorofentanyl. (*Id.* at 17-18). The GC/FID technique is used to identify the “retention time” of compounds. (*Id.*; Pascual Decl. ¶ 6). The “ISOM02” method is then applied to distinguish among and identify isomers of fluorofentanyl “based on the distinct and predictable retention time of each isomer.” (Gov. Br. at 18; Pascual Decl. ¶ 8). These are the techniques—GC/MS and GC/FID applying the ISOM02 method—that Astrakhan utilized to form his opinion as to the Count Two Substance. (Gov. Br. at 18). Indeed, the reply letter and supplemental report from Defendant’s expert now acknowledges that this methodology “is a valid method.” (Reply at 2).

The ISOM02 method was subject to the DEA’s validation process, which consists of, *inter alia*, selectivity, repeatability, reproducibility, and ruggedness, and the method was validated by the DEA in March 2022. (Pascual Decl. ¶¶ 7-9). Since its validation, the ISOM02 method has been used by the DEA to specifically identify para-fluorofentanyl in more than one thousand samples across the country. (*Id.* ¶ 9). The method also “conforms with ASTM International Standard

E2329-17 Standard Practice for Identification of Seized Drugs and recommendations established by the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG).” (*Id.* ¶ 10). Detailed information regarding the ISOM02 method is publicly available. (*Id.* ¶ 9). Accordingly, the techniques used by Astrakhan are sufficiently reliable.

Given that Astrakhan’s conclusions are based on a sufficiently reliable analytical scheme—GC/MS and GC/FID applying the ISOM02 method—the Court will not preclude the testimony from going to the jury. *See United States v. Napout*, 963 F.3d 163, 187-88 (2d Cir. 2020) (“[A] district court serves a gatekeeping role by ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.”). Indeed, the gravamen of Defendant’s objection that Astrakhan’s methodologies are insufficient and unreliable fails to take into account exactly what the DEA and Astrakhan did in connection with the ISOM02 method; and itself is an insufficient objection under Rule 702. Confronted with this reality, Defendant’s expert now concedes the validity of the methodology. (Reply at 2). The Court is also satisfied that the testing techniques are the product of reliable principles and methods that have been reliably applied in this case.

To the extent that Defendant suggests that more analysis is appropriate under the DEA’s methodology, it is a proper subject for cross-examination and not a reason to preclude this witness from testifying. *See United States v. Jones*, No. S4-15-CR-00153, 2018 WL 2684101, at *12 (S.D.N.Y. June 5, 2018), *aff’d*, 965 F.3d 149 (2d Cir. 2020) (“To the extent that Defendant disagrees on how the [testing] was applied in this particular case, he can address those concerns at trial by putting on expert testimony and cross-examining witnesses, allowing the jury to make any such determination as to the application of the [testing].”).

Accordingly, Defendant’s motion with respect to Astrakhan is DENIED.

II. Herdman's Testimony

Defendant moves to preclude Herdman from testifying that the Count Two substance is para-fluorofentanyl and that para-fluorofentanyl is an analogue of fentanyl. (Def. Br. at 5). Defendant does not challenge Herdman's qualifications or competence, but argues first that Herdman cannot conclude to a reasonable degree of scientific certainty that para-fluorofentanyl is "substantially similar" in chemical structure to fentanyl based on her use of two dimensional line drawings. (*Id.* at 5-6). The Government contends that Herdman's reliance on principally two dimensional renderings is a scientifically accepted way to depict chemical structures. (Gov. Br. at 27-28). Use of two dimensional diagrams in comparing two chemical compounds has been accepted by the Second Circuit. *See United States v. Requena*, 980 F.3d 30, 47 (2d Cir. 2020) ("the district court did not abuse its discretion in permitting the government's experts to opine that the synthetic cannabinoids at issue are substantially similar . . . to scheduled substances" where the expert used two-dimensional diagrams to "compare the structures of each of the synthetic cannabinoids at issue with their alleged scheduled analogues"). Defendant's own expert, Dudley, regularly uses two dimensional diagrams in reports and testimony concerning structural similarity between substances. (Gov. Br. at 31-34).²

² *See United States v. Meadows*, 22-CR-00353 (S.D.N.Y.), Declaration of Gregory B. Dudley, at 3 ("The line drawing structural formulas (structural representations) for cocaine and selected isomers are provided below in accord with standard conventions in organic chemistry for representing chemical structures."); *United States v. Okparaekwe*, 17-CR-00225 (S.D.N.Y.), Declaration of Gregory B. Dudley, at 2 n.1 ("The molecular structures of substances discussed herein are graphically depicted using two-dimensional line drawing notation, in accord with standard practices in organic chemistry."); *United States v. Marshall et al.*, 14-CR-00232 (N.D.N.Y.), Declaration of Gregory B. Dudley, at 6 ("Compounds are often illustrated graphically using line drawings, with lines to represent bonds (shared electrons) between atoms, and vertices to identify the location of atoms. Carbon and hydrogen atoms that are part of the core framework are often not labeled explicitly if they can be inferred from the line drawing."); *United States v. Carlson*, 12-CR-00305 (D. Minn.), 9/30/2023 Trial Tr. at 2037:12-18, 1995:6-10, 1996:23-1997:4, 998:19-1999:4, 2007:14-18; *United States v. Holmes*, 21-CR-00147, Doc. No. 22-1, at 3 (E.D.N.Y.) ("The line drawing structural formulas (structural representations) for cocaine and selected isomers are provided below in accord with standard conventions in organic chemistry for representing chemical structures."); *United States v. Ferrer*, 20-CR-00650, Doc. No. 19-1, at 3 (S.D.N.Y.) (same); *United States v. Swinton*, 15-CR-

Moreover, pursuant to standard DEA protocol, Herdman's determinations are peer-reviewed internally by multiple chemists before she renders an opinion. (*Id.* at 28; Herdman Decl. ¶ 9). Accordingly, the Court does not find that Herdman's testimony is based on insufficient facts and data, nor that it is not the product of reliable principles and methods that have been reliably applied in this case. Two dimensional line drawings are reliable, regularly applied, and approved for use by the Second Circuit. *See, i.e., Requena*, 980 F.3d at 47.

To the extent Defendant next argues that para-fluorofentanyl is not an analogue as defined by *United States v. McCray*, 7 F.4th 40 (2d Cir. 2021), the Court will not preclude Herdman's testimony on that basis. (Def. Br. at 7). Defendant, in response to the Government's November 21, 2023 motion *in limine* regarding the proposed fentanyl analogue jury instruction, argues that *McCray* is binding Second Circuit precedent which conclusively defines the term "analogue" under Section 841(b); and urges the Court to apply the *McCray* definition herein. (Doc. 64; Doc. 65). Defendant further asserts in connection with this branch of the motion that the structure of fentanyl and para-fluorofentanyl does not differ "by a single element of the *same* valence and group of the periodic table as the element it replaces," (quoting *McCray*); and, therefore, "para-fluorofentanyl is not a good fit for the *McCray* definition of a fentanyl analogue." (Def. Br. at 7; Doc. 65 at 3). In other words, Defendant's contention is that this Court must apply a definition of analogue that would not, under any circumstances, permit the conclusion that para-fluorofentanyl is an analogue of fentanyl under Section 841(b)(1)(B)(vi).

06055, Doc. No. 364-2 (W.D.N.Y.) (same); *United States v. Ghaleb*, 18-CR-00150, Doc. No. 59-1 (S.D.N.Y.) (providing "two-dimensional line drawing representations of synthetic cannabinoids"); *United States v. Hamed*, 17-CR-00302, Doc. No. 131-1 (S.D.N.Y.) ("The molecular structures of substances discussed herein are graphically depicted using two-dimensional line drawing notation, in accord with standard practices in organic chemistry."); *United States v. Chong et al.*, 13-CR-00570, Doc. No. 147-3, at 1 (E.D.N.Y.) ("Simple two-dimensional and color-coded representations of the chemical structures in question are provided in the graphic below.").

Dudley’s strict application of the *McCray* definition ignores the “differing often” portion of the *McCray* definition language and is not a proper analysis of the Circuit Court’s definition of analogue. *See McCray*, 7 F.4th at 46 (2d Cir. 2021) (“Webster’s New Collegiate Dictionary defines ‘analogue’ in the relevant chemistry context as ‘a chemical compound structurally similar to another but differing *often* by a single element of the same valence and group of the periodic table as the element it replaces.’”) (emphasis added). That an analogue “differ[s] often by a single element of the same valence and group of the periodic table as the element it replaces” is an illustration of how a chemical compound may be “structurally similar to another” such that it can be considered an analogue, but is in no way a strict requirement for a determination of structural similarity. *Id.* The argument that this Court’s decision in *U.S. v. Cruz*, No. 21-CR-00502, 2022 WL 17586274, at *1 (S.D.N.Y. Dec. 12, 2022), somehow endorsed this strict interpretation, which Defendant suggests, is also wrong. The Court did no such thing.

Moreover, whether the evidence presented at trial fits the definition of “analogue” which is ultimately charged to the jury (and which charge will be decided separately) is a matter for the jury to decide once the parties have adduced proof on this issue. *See Requena*, 980 F.3d at 47 n.13; *see also United States v. Demott*, 906 F.3d 231, 239 (2d Cir. 2018) (holding that whether a particular substance is substantially similar to a controlled substance is a factual question for the jury). Given the Court’s decision here concerning the illustrative nature of the language in *McCray*, the parties are directed to promptly meet and confer to consider other clarifying illustrative

language to aid the jury's understanding of structural similarity,³ beyond the *McCray* illustration ("differing often by a single element . . .") and promptly notify the Court of the results of the meet and confer.

Accordingly, Defendant's motion as to Herdman is DENIED.


III. Daubert Hearing

Defendant requests in the alternative that the the Court hold a *Daubert* hearing. (Def. Br. at 7). On these facts, the jury will not be exposed to expert opinion based upon insufficient facts or data, nor opinions which are not based on sufficient facts and data or are not the product of reliable principles and methods that have been reliably applied in this case. Therefore, and upon the facts presented by this motion, the Court need not, in its gatekeeping function, hold a *Daubert* hearing. Defendant's request for a *Daubert* hearing is, accordingly, DENIED.

The Clerk of Court is respectfully requested to terminate the motion pending at Doc. 60.

SO ORDERED.

Dated: White Plains, New York
December 5, 2023



Hon. Phillip M. Halpern
United States District Judge

³ The *McCray* panel chose to use a 1985 definition of analogue contained in Webster's dictionary. See *McCray*, 7 F.4th at 46 (quoting Webster's New Collegiate Dictionary (9th ed. 1985)). Other versions of the definition which include illustrative language are, *inter alia*, (i) "one of a group of chemical compounds similar in structure but different in respect to elemental composition" (Collins Online Dictionary, available at <https://www.collinsdictionary.com/us/dictionary/english/analogue>); and (ii) "[a] compound with a molecular structure closely similar to that of another, esp. differing only by the substitution of one atom or group for another." (Oxford English Dictionary, available at https://www.oed.com/dictionary/analogue_n?tab=meaning_and_use#4176309).